ENVIRONMENTAL IMPACT ANALYSIS
of
PROPOSED MINING PLAN
for
THE ANACONDA COMPANY'S
P-9-2 UNDERGROUND URANIUM MINE
VALENCIA COUNTY, NEW MEXICO

LAGUNA TRIBAL LEASE
No. 4

Proposed Action

The proposed action consists of a mining plan submitted under the provisions of 30 CFR Part 231.10 of the Federal regulations by The Anaconda Company on September 19, 1973. The plan is for a small underground mining operation near the southeast margin of the company's large Paguate open-pit mine on Laguna Tribal lease No. 4. Scheduled to start mining ore November 1, 1973, the 100 to 150 tons per day operation should be completed in May 1975.

A multilayered group of 13 small southeasterly trending tabular ore bodies lie within the Jackpile unit of the Jurassic Morrison Formation at an average depth of about 150 feet below the land surface. They extend southeasterly from the Paguate pit crest limit for a distance of nearly ½ mile. Since the estimated ore reserves are too small to justify the cost of open-pit mining, they will be developed through three separate adits laterally advanced from near the bottom of a small mined out open-pit. The small pit is connected to the Paguate pit by a jointly used haulage ramp. Each adit will extend for at least 1,000 feet into the walls of the 150-foot deep pit.

The adits will be driven with a mechanical mining machine whenever possible, and by drilling and blasting when necessary.

Ore extraction will be accomplished through raises from the trackless adit levels by sub-level room and pillar stoping with conventional mining equipment, and by longwall stoping with a mechanical mining machine when feasible.

Major items of surface equipment will include 1-600 CFM diesel-powered air compressor, 1-250 KW diesel-powered generator and 3-25 T diesel-powered dump trucks, underground items will include 2-5 T diesel-powered trucks, 2-15 HP electrically-powered slusher hoists, 3 jackleg-mounted pneumatic jackhammers, 1-Alpine Miner and 2-35,000 CFM, 25 HP electrically-powered axial flow ventilating fans.

The ore from this small operation will supplement that being produced from the company's nearby Paguate and Jackpile open-pit mines situated on adjoining Laguna Tribal lease No.1. Currently, nearly 2,400 TPD

of relatively highgrade ore are being transported about 50 miles by rail (AT&SF) to the company's 3,500 TPD acid-leach concentrator near Grants, New Mexico.

Location and Natural Setting

The involved lands include about 16 acres within T. 10 N., R. 5 W., section 4: NW¼, NMPM, Valencia County, New Mexico. They are located in the Laguna Mining District about 8.5 miles north of Laguna, New Mexico, on the Laguna Indian Resevation. The tract is situated on the gently rolling terrain atop North Oak Canyon Mesa about ½ mile north of State Highway 275 at an elevation of nearly 6,100 feet above sea level.

The climate is semiarid, the annual precipitation ranging from 4 to 18 inches and averaging about 9 inches per year. The summers are generally hot, the winters moderately cold and the mean yearly temperature is about 53° F.

No sizable natural drainageways are present on the tract, and all surface water run off flows into the open-pit workings where it is impounded and evaporated. Drill hole data indicate the absence of ground water well below them. The thin (12 inches), sandy mantle of top soil supports a sparse growth of native grasses, cacti and desert shrubs spotted by occasional juniper trees. Past drilling activities have impressed the area with many drilling sites and a network of access roads.

The leased lands are used for mining purposes with the exception of a small centrally located housing area for about 30 key mine employees that is well removed from the surface mining activities. The property is posted and fenced at all points of easy access, and a security guard station on the principal access road is manned 24 hours a day.

The Laguna indian village of Paguate (1,253 pop. 1968 census) overlooks the leased area from an elevated site about 1 mile northwest of the planned project. About 90 percent of the company's 372 mine operations personnel are Laguna indians, and nearly 20 percent of them reside in Paguate.

No indian ruins, burial or religiously significent sites are situated on or near the leased lands according to official company

and Bureau of Indian Affairs, Southern Pueblos Agency sources of information. Recreation sites, parks, monuments, historical sites and unique physical features were also reported to be absent. Although surrounded by a scenic area, views thereof are not affected by the proposed mining installations because nearly all of them are either underground or situated on or near the floor of an open-pit excavation well below the existing land surface. Only the ventilating fan installation for one of the two ventilation shafts will rise to the height of about 8 feet above the ground.

Owing to the intense surface mining activity on a two-shift basis and the nonexistence of surface water in the general vicinity of the P-9-2 mine site, wild life on and near the affected lands is apparently limited to an inconsequential number of small commonplace rodents, lizards, insects, arachnids and transient small birds. The small area of the original land surface to be affected by the plan, less than 1 acre, and the shallow depth to which it will be disturbed is expected to hold displacement and destruction of them to an inconsiderable number. No endangered species are known to be present.

Unfortunately, little scientific or technical literature about the general area exists. The few relevant and available publications are mostly of geological character.

Effect on The Environment

All of the surface plant facilities, the 3 adit portals and the waste dump will be contained within the small mined out open-pit. One of the two ventilation bore holes will be located in the bottom of a declined haulage ramp for the Paguate pit. Accordingly, damage to the involved lands will be limited to that resulting from the construction of a 15'x200' access road and the preparation of a ½ acre drilling site for a second ventilation bore hole located away from all pit workings. The necessary grading and leveling of the land surface with a motorized grader will disturb the top soil to a depth of about 6 inches with the consequent destruction of the vegetation on a total area of less than 1 acre in size.

A geological review of the proposed plan did not disclose any geologic hazards that might cause additional envoronmental damage during or after completion of the mining operations. Also, the intended methods of ground support in the mine should be adequate to prevent surface subsidence above the underground workings. However, mined-out areas will be waste-filled if necessary to prevent excessive caving.

In the absence of ground water, and the diversion of surface run off water to a collection pond on the floor of the small open-pit, water in the underground workings will consist of the negligible quantity that will be used in pneumatic drilling.

Sanitation facilities will include chemical toilets with waste disposal provided for in established sewage lagoons. Suitable change house facilities are available at nearby machine shops and mine office buildings for the open-pit operations.

The possibility of any significant amount of air pollution is remote because of the absence of any sizable contributory sources in either the surface plant installations or the underground workings. The formation of road dust from ore and waste haulage on the surface will be kept to an acceptable minimum by spraying water from the collection ponds on the roads with truck mounted sprinklers. Radioactive gas and particulate materials in the mine will be removed with an efficient ventilating system in compliance with MESA standards and harmlessly disipated in the atmosphere.

No unusual health or safety problems are expected in any phase of the operations.

Nearby Paguate village and its inhabitants should not be affected by the mining operations, nor should the tribal economy be changed since the ore therefrom is needed to maintain the present production schedule.

Alternatives To The Proposed Action

The only alternative to the plan would be to refrain from exploiting the ore bodies. This substitute, presuming it could be legally accomplished, would result in an undesirable reduction of the Tribal income.

No other feasible mining method or modification of the proposed method would reduce the possible damage to the environment. Any form of open-pit mining would be uneconomical and would also disturb a much greater area of the land surface. Any modification of the planned method could only result in further surficial damage from the necessary construction of several production shaft sites.

Unavoidable Adverse Environmental Effects

The only unavoidable adverse effect of the proposed action on the environment of any consequence will be the disturbance of less than one acre of the involved land surface to a depth of about 6 inches during the construction of an access road and one drilling site, with the resultant destruction of vegetation thereon.

However, upon completion of operations, all disturbed or denuded areas will be rehabilitated by the lessee to the satisfaction of the Agency Superintendent as provided for under Section 16 of the lease.

The top soil will be replaced if necessary, and the vegetative cover will be reestablished by cultivation and reseeded as prescribed by the Bureau of Indian Affairs. Adequacy of the work and the results will be determined through post-project inspections by an authorized representative of the BIA, Southern Pueblos Agency.

In addition, all mine openings will be filled and/or sealed after written approval has been issued to the lessee by the Area Mining Supervisor. The work will be accomplished according to the Supervisor's recommendations to the Agency Superintendent subject to his approval as prescribed in the lease. This post-project work will be periodically inspected for adequacy during its execution by the monitoring mining engineer who will submit reports to the Mining Supervisor and the Agency Superintendent regarding its acceptability.

Recommendations

From the foregoing, and in the absence of any adverse comments or controversial issues, it is concluded that the proposed action should not be considered as a major Federal action. Accordingly, it is recommended that it be determined that the plan does not constitute a major Federal action significantly affecting the quality of the human environment in the sense of NEPA, Section 102(2)(c).

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SUMMARY OF ENVIRONMENTAL IMPACT EVALUATION

PROPOSED MINING PLAN
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VALENCIA COUNTY, NEW MEXICO

PROPOSED ACTION

Existing Conditions:	Construction: Roads, bridges, airports, railroads	Construction: Transmission lines, pipelines	Construction: Dams and impoundments	Construction: Structures (mine buildings, etc.)	Construction: Others	Pollution: Burning, noise, dust	Pollution: Liquid effluent discharge	Pollution: Solid waste control and disposal	Pollution: Others (toxic gases, noxious gases, etc.)	Exploration or Mining: Exploration (drilling, trenching)	Exploration or Mining: Surface Excavation (tunnel, stripmining, etc.)	Exploration or Mining: Storage (product, waste, spoil	Exploration or Mining: Mineral processing (ext. facilities)	Exploration or Mining: Others	Transport Operations: Trucks, railroads	Transport Operations: Pipelines, conveyors	Transport Operations: Others	Accidents: Spills and leaks, explosions	Accidents: Landslides	Accidents: Operational failure	Other
Land Use																					
Forestry																					
Grazing																					
Wilderness																					
Agriculture																					
Residential - Industrial																					
Mineral Extraction											/										
Oil and Gas																					
Recreation																					
Scenic Views																					
Parks, Reserves																					
Monuments																					
Historical Sites																					8 miles
Unique Physical Features																					
Phy.Charact. Flora & Fauna																					
Birds																					
Land Animals																					
Fish																					
Endangered Species																					
Trees, Grass, Etc.	X										X										
Surface Water											/				/						
Underground Water																					
Air Quality	/					/															
Erosion																					
Other																					
Effect on Local Economy											/										
Safety and Health											/										
Others																					